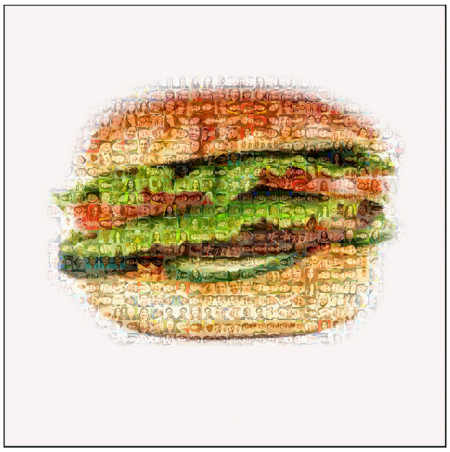
In This Issue

Cell



What to Eat? Check Your Microbiome!

ZEEVI ET AL., PAGE 1079

Personalized diets, based on the integration of people's different responses to meals and their microbiome, may successfully lower post-meal blood glucose and its consequences for metabolic diseases.

*Hsp*ecially Important Network for Dengue

TAGUWA ET AL., PAGE 1108

Chaperone network components are required at distinct steps of Dengue viral lifecycle, with compounds that allosterically modulate Hsp70 showing potent antiviral activity against Dengue and other flavivirus pathogens.

Antibodies from Privileged Exons

YEAP ET AL., PAGE 1124

An in vivo assay elucidating the role of DNA substrate sequences in AID-initiated antibody diversification finds that the variable (V)-region exon is specifically selected. Gut-associated B lymphocytes provide a reservoir of such variable exons that allow for highly diversified antibody repertoires.

Case Closed for V(D)J Recombination

WU ET AL., PAGE 1138

Cryo-EM structures of synaptic RAG complexes reveal a recombination signal sequence (RSS)-induced closed conformation that enables catalytic activation and explain the molecular basis for the 12/23 rule that conveys recombination fidelity, whereby RAG forms synaptic complexes only with 12- and 23-base-pairs-long RSS spacers.

Getting into the Habit

KIM ET AL., PAGE 1165

A population of dopamine neurons in the basal ganglia is involved in learning and in sustaining habitual behavior in monkeys, providing a possible neural framework for the dysfunction in performing daily routines in Parkinson's disease.

GPCR Odd Couple

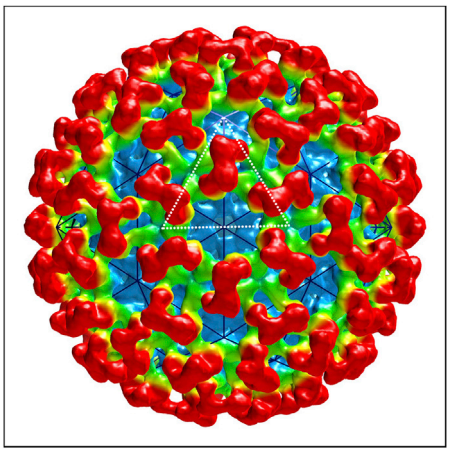
KERN ET AL., PAGE 1176

GPCR heterodimerization between a dopamine receptor and a ghrelin receptor that is not associated with ghrelin initiates a non-canonical, cAMP-independent signaling pathway that regulates dopaminergic regulation of hippocampal memory.

An Excited "STOP" from the Brainstem

BOUVIER ET AL., PAGE 1191

The ability to stop locomotion is regulated by genetically and spatially segregated excitatory neurons in the brain stem that project to the spinal cord, where they depress locomotor rhythm generation.



Anti-Alpha Antibodies

FOX ET AL., PAGE 1095

A class of broadly neutralizing monoclonal antibodies protecting against multiple alphaviruses, including chikungunya, bind a discrete epitope on the alphavirus E2 glycoprotein, blocking viral entry and egress.

Innate Wins in Fear Contest

ISOSAKA ET AL., PAGE 1153

A population of serotonin receptor-expressing cells in the central amygdala integrates innate and learned behaviors and acts as a hierarchy generator to prioritize innate over learned fear.

Making Dystrophy All Bark and No Bite

VIEIRA ET AL., PAGE 1204

A genetic modifier of Duchene muscular dystrophy phenotype has been found in two exceptional dogs that display functional muscle and normal lifespan despite the complete absence of dystrophin.

Time and Temperature

TATAROGLU ET AL., PAGE 1214

Temperature shifts the phase of the *Drosophila* circadian clock through the regulated degradation of the pacemaker protein TIMELESS.

Wnt without Transcription

KOCH ET AL., PAGE 1225

While canonical Wnt signaling necessitates β-catenin-dependent transcription, a multifaceted set of Wnt functions in sperm development is implemented post-transcriptionally through mechanisms that may be relevant to other tissues as well.

Oncogenic Secrets of K-Ras

WANG ET AL., PAGE 1237

The interaction between K-Ras and calmodulin (CaM) modulates tumor formation through inhibition of CaM kinase activity and suppression of Wnt/Ca2+ signaling; disruption of this interaction by the natural product prostratin represses tumor growth.

Telomere's Meiotic Hat

SHIBUYA ET AL., PAGE 1252

During meiosis, telomeres experience a cap exchange process in which a protein complex localized at the inner nuclear membrane replaces the protective cap of chromosomes to ensure telomere tethering for correct chromosome recombination.

Ribosome Gymnastics with RNA and Peptide Spotters

CHEN ET AL., PAGE 1267

The ribosome can "hop" over a section of phage mRNA while in the midst of translating it, and single-molecule techniques indicate that these dynamics require interactions between the mRNA secondary structure, the nascent peptide, and the ribosome that advances in a non-canonical rotated state.